

# **Barron County Board Meeting**

## **Industrial Sand Mining**

**February 16, 2015**



# WDNR Permitting & Compliance Authorities



- Air
- High Capacity Wells / Groundwater
- Private / Public Drinking Water
- Exploratory Borehole Abandonment
- Stormwater/Wastewater
- Water Regulation / Water Resources
- Nonmetallic Mining Reclamation
- Enforcement



# Excluded from DNR's Regulatory Authority

- Noise
- Light Pollution
- Blasting
- Zoning
- Road Maintenance Issues
- Employee Safety on Site
  - **Mine Safety and Health Association (MSHA)**
    - Regulatory Authority
    - Dictates Monitoring Requirements for Mine Site Workers
  - **Occupational Safety and Health Association (OSHA)**
    - Industrial Operations such as Drying Facilities



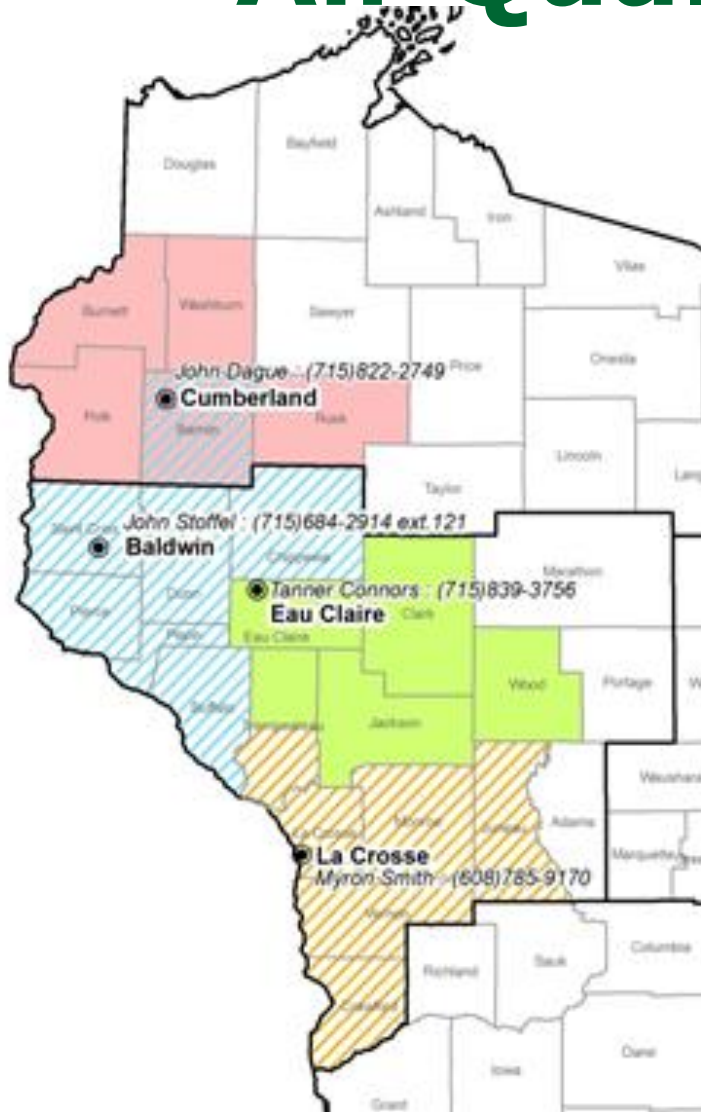
# Staff Resources

- Over 100 Staff Involved
- Air Management Program
  - 3.5 Dedicated Full Time Employees
- Water Program
  - 1 Dedicated Full Time Employee
    - Stormwater & Water Regulation / Zoning
- County Staff
  - County reclamation staff / Zoning - Land Management

# Air Quality



# Air Quality Contacts



- **Richard Wulk (Supervisor)**  
(920) 662-5181
  - **Cumberland**  
**John Dague**  
(715) 822-2749
  - **Baldwin**  
**John Stoffel**  
(715) 684-2914, Ext 121
  - **Eau Claire**  
**Tanner Connors**  
(715) 839-3736
  - **La Crosse**  
**Myron Smith**  
(608) 785-9170



# Air Permits

- **Construction Permit**

- Issued to cover new or modified pieces of equipment
- Dust Control Plans

- **Operations Permit**

- Issued to cover all significant emission units operations and activities at an entire facility





# Air Permit Process

- **Facilities must apply for both Construction AND Operation Permit.**
  - This process can take ~3+ months.
- **As of 12/1/2014 67 Active Industrial Sand Mining Sources Statewide for Air Inspections**
- **Issued a permit or a formal exemption.**
  - Obtaining a permit does not mean they are actively operating.





# Site Inspections

- **Frac Sand Industrial Site Status**
  - 67 Active Sites for air monitoring
  - 82 Inactive Sites
- **Compliance Inspections Completed as of February 11, 2015**
  - 34 Full Inspections
  - 100 Partial Inspections
- **Inspection Goal through June 30, 2015**
  - Conduct full inspection at every active site.
  - At least two partial inspections at every active location.
- **Continued Follow-Up of Inactive Sites**

## *Particulate Matter: What is It?*

**A complex mixture of extremely small particles and liquid droplets**

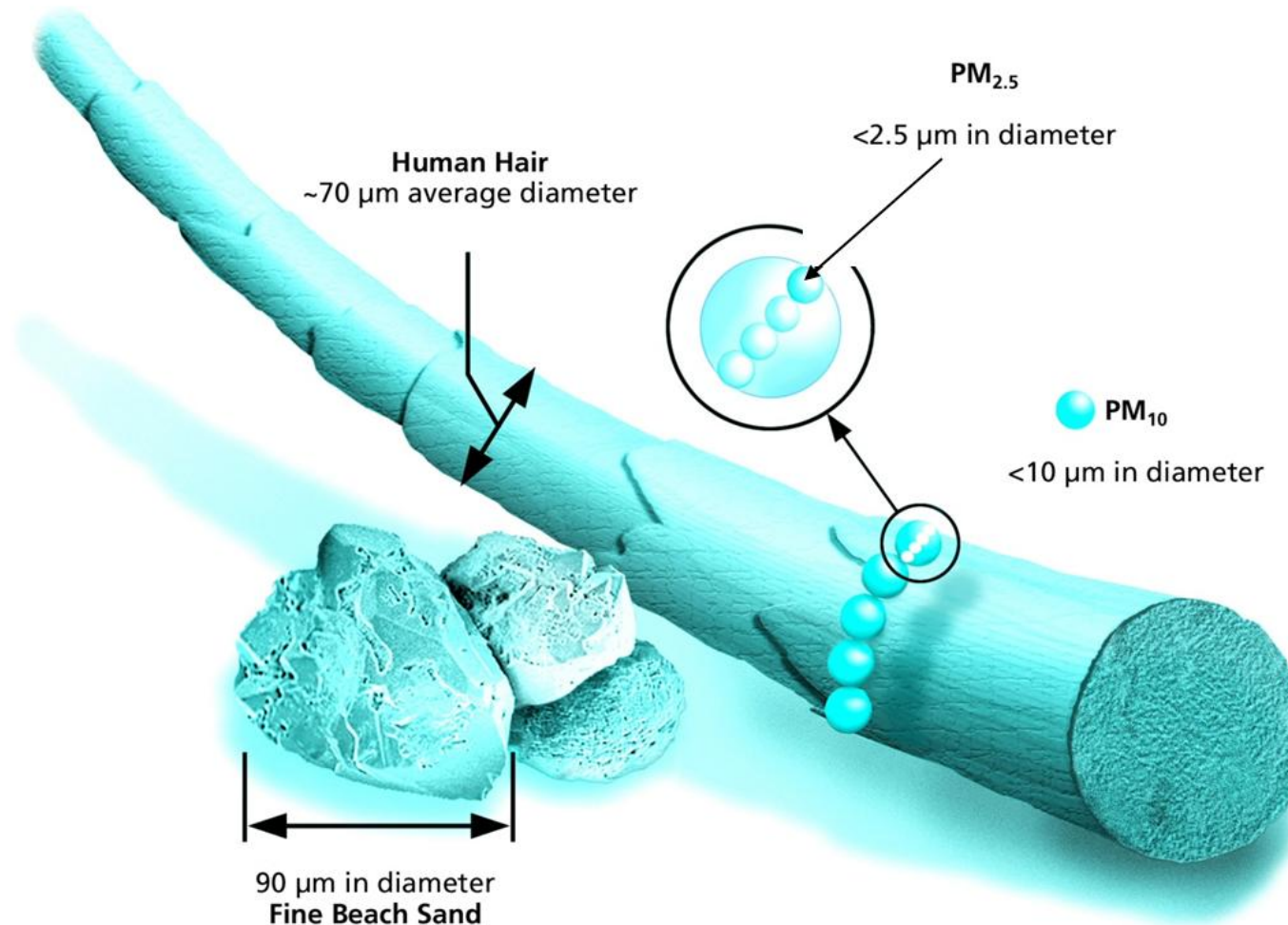


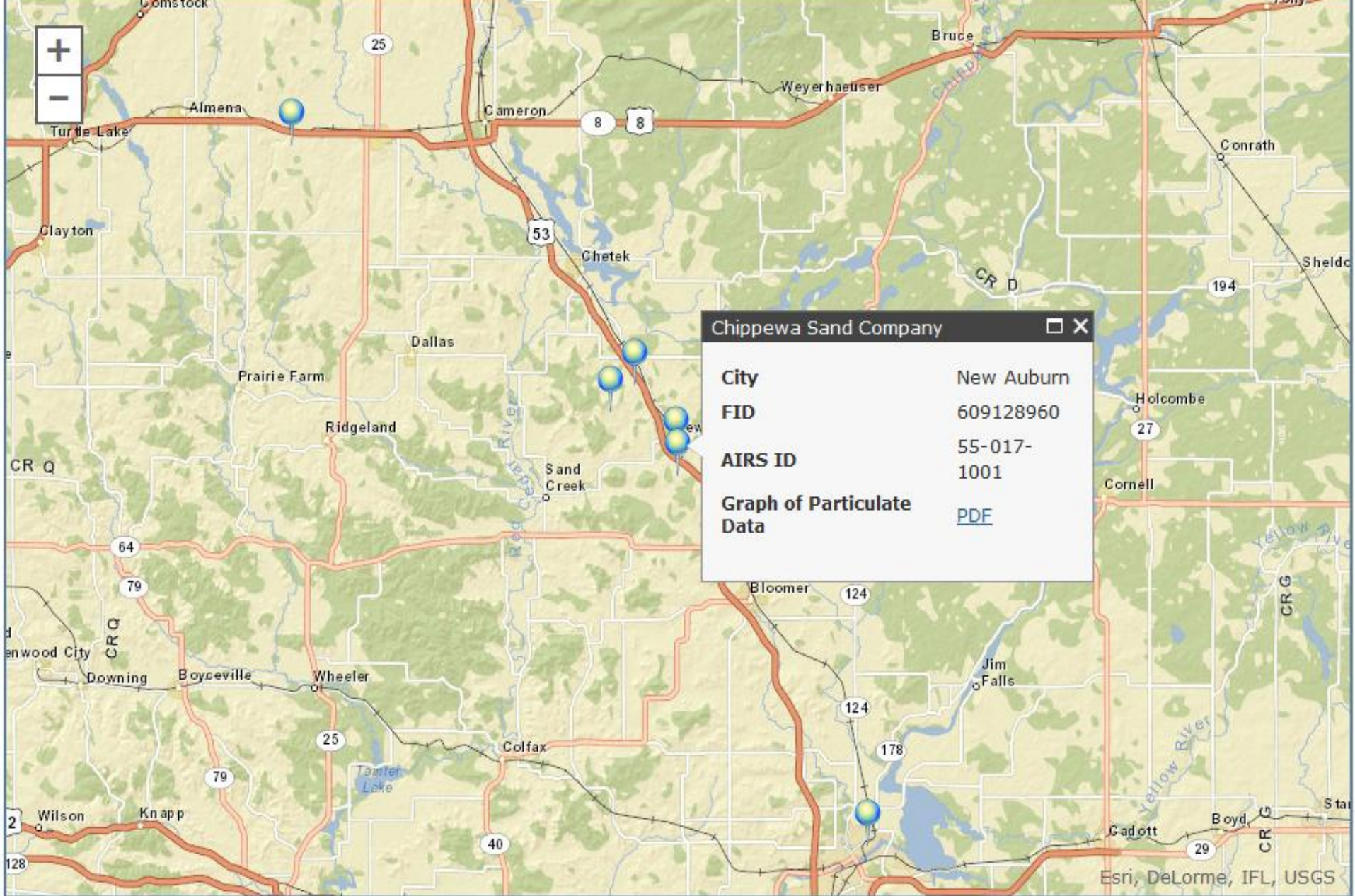
Image courtesy of EPA, Office of Research and Development



# PM Monitoring Data

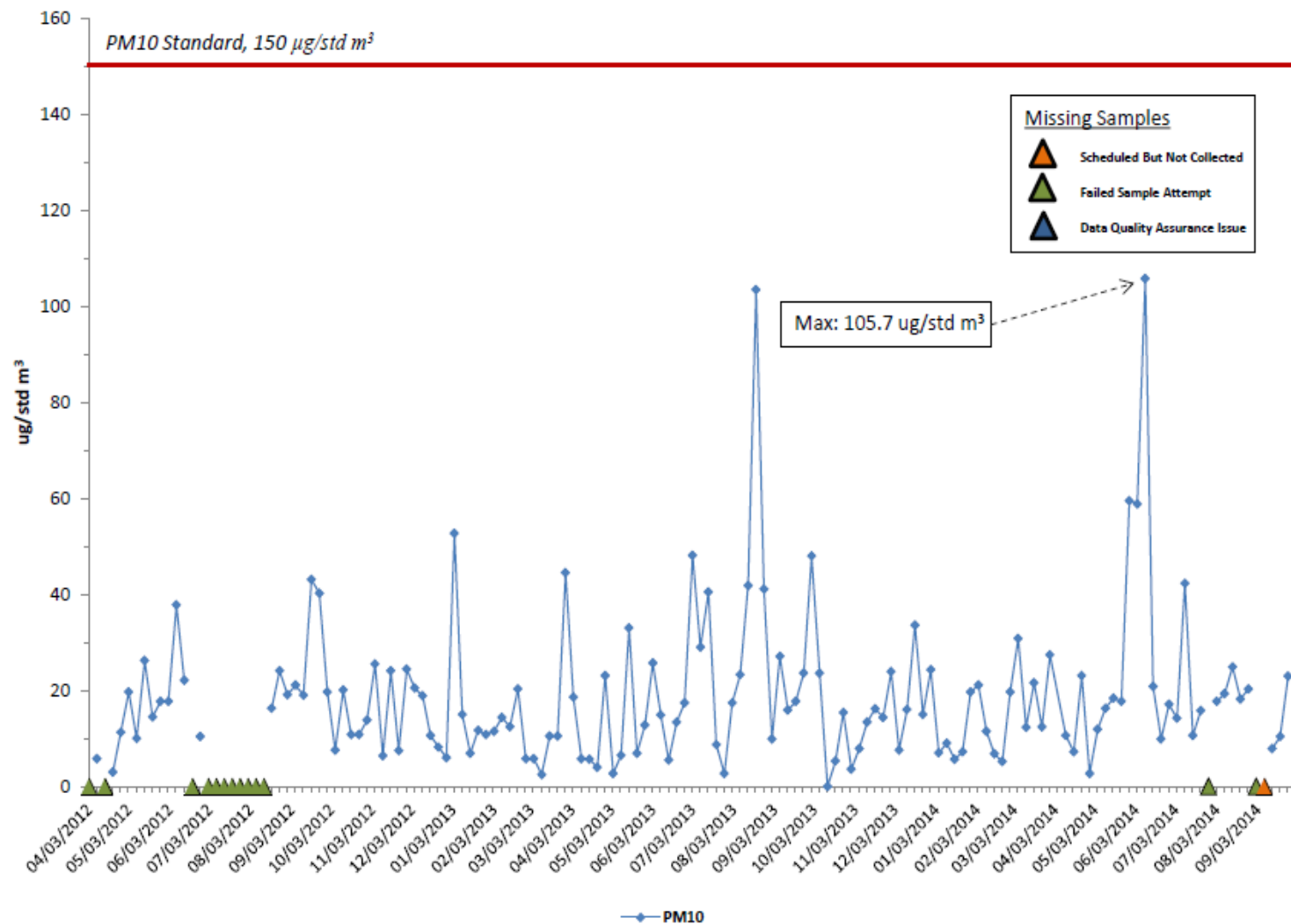
- **Sampling Days Completed At Mining Facilities**
  - Total of 1,408 valid samples through September 2014. **No samples have exceeded the applicable standard.**





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## PM10 at Chippewa Sand Company - New Auburn





# PM Monitoring Data

- **PM2.5**

- Regional pollutant that travels long distances
- Product of combustion and secondary formation (coal, wood, gasoline)

- **Ambient Air Monitor for PM2.5**

- Department-operated monitor located in Eau Claire
- PM 2.5 standard has not been exceeded

- **Website:**

**[//dnr.wi.gov/topic/mines/silica.html](http://dnr.wi.gov/topic/mines/silica.html)**

# Water Quality







# High Capacity Wells / Groundwater

- **High Capacity Wells**

- Statutory Definition: Any well on a property with a cumulative capacity to withdraw more than 100,000 gpd (70gpm)

- **Water Use**

- Potential impacts to surface and groundwater resources.

- **Exploratory Drilling**

- Borehole abandonment





# Barron County Well Data

- **High Capacity Wells – 342**

(The following data is based on records from about 200 high cap wells.)

- Depths range from 40 to 833 feet
- Specific capacities range from 1 to 90 gpm/ft
  - Average – 15 gpm/ft of drawdown
- 128 draw from sand and gravel with the remainder bedrock wells (mostly sandstone with some dolomite)

- **Active High Capacity Wells – 198**

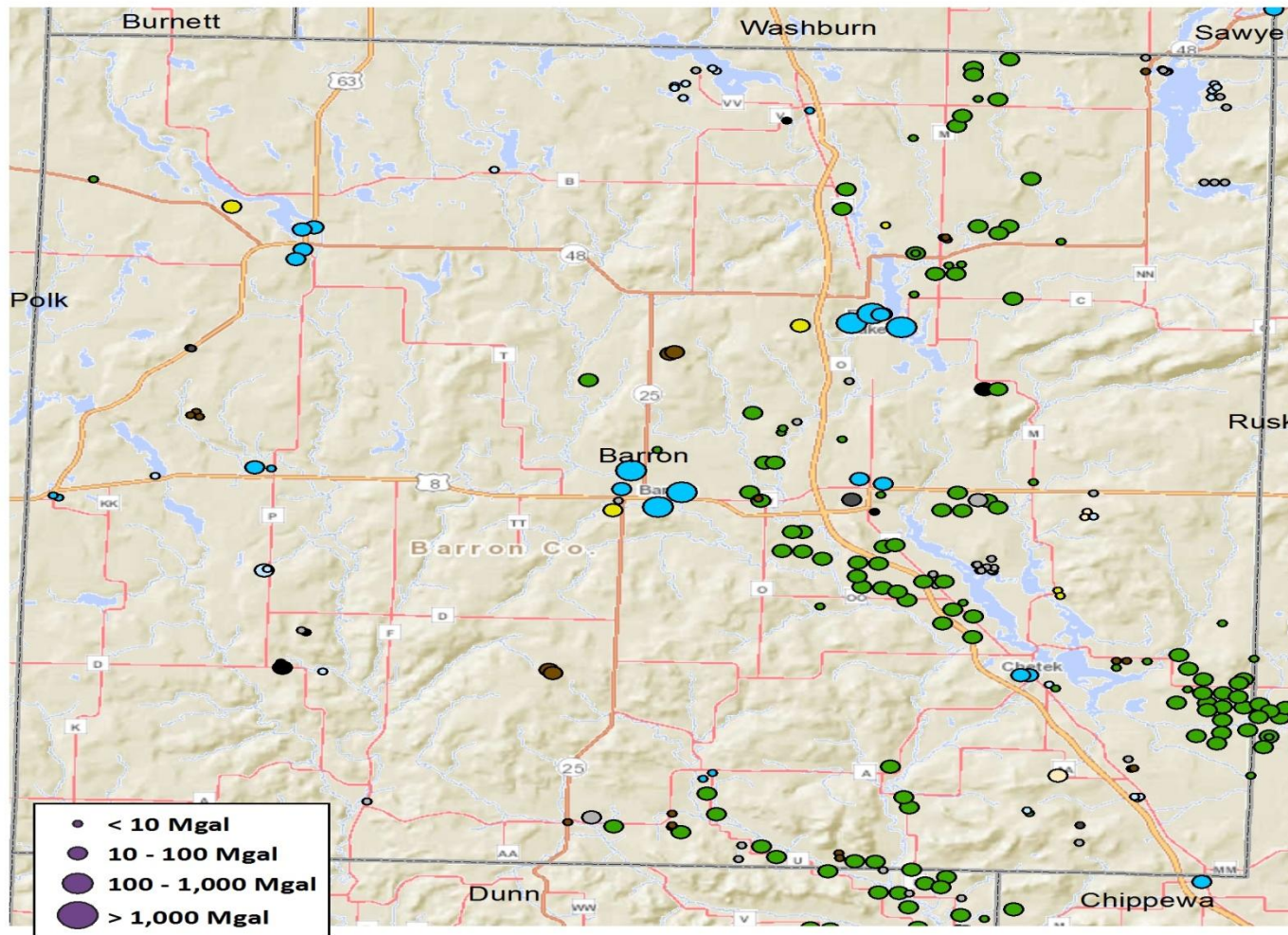
- Agricultural Irrigation – 136
- Municipal Public Water Supply – 24
- Other Purposes – 21
- Industrial Purposes – 17



# Private / Public Drinking Water

- **Water Supply**
  - Quantity and Quality
- **On-Site Wells**
  - Public vs Private

# Barron County 2013 Groundwater Withdrawals





# Additional Information

- **What are the well restrictions?**

Agricultural and industrial restrictions are considered on a case-by-case basis. Some of the sand mines have limits, however, there are not many limits for Agricultural wells.

- **What is the hydrology for aquifer replenishment?**

Recharge estimates range from 3 inches to 12 inches per year.

- **Any violations – both agricultural and industrial?**

No ongoing or DNR enforcement in Barron County.

- **Monitoring efforts?**

A review of monitoring needs will be addressed as part of the strategic analysis process. The Chippewa County modeling effort does go into southern Barron County.

- **Who pays when a prior existing well goes dry?**

This is dependent upon case specifics based on if there is solid proof that it was caused by a nearby operation. The DNR may or may not have regulatory authority depending on the case specifics.





# Stormwater / Wastewater

- **General Permit**
  - Addresses stormwater and wastewater.
- **Internal vs External Drainage**
- **Stormwater Pollution Prevention Plan**
  - Required
- **Washing Operations**
  - Co-mingling of stormwater / wastewater
- **Excessive Run-off**
  - Impacts to surface waters



# Water Regulation and Wetlands

- **Project Identification**
  - Proximity to Navigable Waters
- **Wetland Mitigation**
  - Practicable Alternatives
- **Wetland Delineation**
  - Must be completed and verified during growing season
- **Discharges to Wetlands**
  - Surface Waters



# Environmental Compliance





# Nonmetallic Mining Reclamation

- **Reclamation**
  - County Programs
  - Annexation and Local Programs
- **Types of Proposed Reclamation**
  - Large (1,000+ Acre) Open Sites
  - Contemporaneous Reclamation



# Enforcement Considerations

- **Enforcement Process – Stepped Approach**
  - Notice of Noncompliance (NON)
  - Notice of Violation (NOV)
  - Enforcement Conference (EC)
  - Citation
  - Referral to the Department of Justice
- **Determining Education vs. Enforcement**
  - Prior to the violation
  - After the alleged violation
- **Potential Ramification of a Violation**
  - Dependent Upon Violation and Severity



# Enforcement Action Data

- **Advanced Enforcement Actions**

28 Actions to Date

- 28 – Notice of Violation / Enforcement Conference
- 5 – Received Citations
- 6 – Referrals to DOJ
  - Forfeitures Range from \$16,000 to \$200,000
- 7 – Remain Open

